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Identity Status among Young Adults: Validation of the Dimensions of Identity
Development Scale (DIDS) in a Finnish sample

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Abstract

Theory and empirical findings suggest that sociohistorical changes have made identity formation a precarious developmental process in contemporary Western societies. Firm commitments may be delayed until the late twenties or discarded altogether. We tested the reliability and factorial validity of a recently developed five-dimensional process model of identity development – Dimensions of Identity Development Scale – in order to evaluate identity formation among Finnish young adults ($N = 751$, $M_{age} = 24.6$, 60.3% women) in a cross-cultural perspective. Results showed that the hypothesized five-factor model could not be confirmed as such. Instead a six-factor model, encountered only recently in two other studies, suited the sample data better. All six identity dimensions were internally and externally correlated as hypothesized and the identity status cluster solution that emerged matched previous results with one exception. Further, the surprisingly high prevalence of diffused and uncertain individuals in our sample may indicate effects of sociohistorical factors specific to a Finnish cultural context.

Keywords: identity status, carefree identity diffusion, ruminative exploration, the Dimensions of Identity Development Scale

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Introduction

According to Erikson's (1950, 1968) life cycle theory, the central developmental task in adolescence is the commitment to a stable set of values, ideals, roles, and future goals – the formation of an identity. One of the first and most influential to operationalize parts of Erikson's identity theory was James Marcia (1966, 1993). Marcia's research focus lay on whether an adolescent had yet made commitments within such domains as occupation and ideology, but also on how these commitments were reached. By measuring the variables of *exploration* and *commitment*, Marcia derived four identity types or statuses (identity achievement, foreclosure, moratorium, and identity diffusion) indicating the present state of identity formation. Individuals who have explored different alternatives and established relatively firm commitments are considered identity Achieved. If the commitments, on the other hand, have been reached without prior exploration, then the individual is classified as Foreclosure. Conversely, if no commitments have yet been established, but differing alternatives are considered at the moment, the individual is categorized as Moratorium. Finally, identity diffused individuals are characterized by no firm commitments and low interest in exploration. According to Marcia's (1993) identity status model, development typically proceeds from Diffusion through Moratorium to Achievement or, directly from Diffusion to Foreclosure (see also Meeus et al., 2010). Over 50 years of identity status research show each of the identity statuses to be clearly differentiated in terms of personality characteristics, well-being, cognitive processes, and interpersonal behavior (Kroger, 2003). Identity achievement is considered to be the most matured status since

individuals within this status are far better adapted on measures of psychological well-being than diffused individuals (Marcia, 1993).

A new dual-cycle model of identity formation

During the last two decades attention has been drawn to the fact that, although adolescence is the most crucial period for identity formation, Erikson described identity formation not as something finalized in the twenties, but as a lifelong dynamic process (Cote & Levine, 1988; Schwartz, 2001). In other words, the identity status model of adolescence does not capture how established commitments are re-evaluated and transformed during the whole lifespan. Accordingly, some scholars have extended the identity status approach in order to better capture the ongoing process-oriented developmental aspect of identity (Berzonsky, 1989; Bosma & Kunnen, 2001; Grotevant, 1987; Meeus, Iedema, & Maassen, 2002).

Luyckx et al. (2005); Luyckx, Goossens, and Soenens (2006); Luyckx et al. (2006); Luyckx, Schwartz, et al. (2008) recently advanced the identity status paradigm by proposing a dual-cycle model of identity formation. In order to capture the iterative-type evaluation of existing commitments in line with Grotevant's (1987) and Meeus, Iedema, and Maassen (2002) process models of identity, Luyckx et al. (2005, 2006); Luyckx, Soenens, and Goossens (2006) extended Marcia's theory by unpacking the exploration and commitment variables into four distinct dimensions. Whereas Marcia's exploration and commitment variables were renamed *exploration in breadth* and *commitment making*, the new process variables were labeled *exploration in depth* and *identification with commitment*. *Exploration in depth* was defined as in-depth evaluation of existing commitments in order to determine whether one's choices match inner desires/values. *Identification with commitment* on the other hand, referred to the emotional firmness of the commitment made – the “strength” of a certain choice.

In order to clarify earlier mixed findings, a fifth identity dimension – *ruminative exploration* – was added to the model (Luyckx, Schwartz, et al., 2008). Previous research had shown that exploration was associated with adaptive factors such as openness and curiosity, but also with negative factors such as heightened distress and depressive symptoms (Kidwell et al., 1995; Luyckx, Soenens, & Goossens, 2006). Consequently, Luyckx, Schwartz, et al. (2008) distinguished reflective and positive types of exploration (*exploration in breadth* and *depth*) from a more dysfunctional or ruminative type of exploration. By *ruminative exploration* Luyckx, Schwartz, et al. (2008) referred to an anxious and perpetual questioning and dwelling over identity issues, which may impede the individual from arriving at firm identity commitments. Cote and Levine (2002) conclude that especially in late-modern consumer-oriented societies, where seemingly endless possibilities of self-realization may increase confusion in adolescents, decision-making becomes more difficult. Luyckx, Schwartz, et al. (2008) proposed that an additional third, ruminative dimension of exploration would not only differentiate between components that promote and restrain identity development, but also help detect qualitatively new identity statuses relevant for identity construction in late-modern societies. The strength in Luyckx et al.'s dual-cycle model of identity formation is that it integrates and synthesizes various neo-Eriksonian research perspectives by focusing on the processes in both the formation and evaluation of identity commitments (Luyckx et al., 2011).

New identity statuses

To measure the five identity processes, Luyckx, Schwartz, et al. (2008) developed a 25-item self-report instrument – the Dimensions for Identity Development Scale (DIDS) – which assesses identity development within the content domain of general future plans. Status assignments are empirically derived through cluster analysis. This has both expanded and refined Marcia's original classification model. Luyckx and colleagues (e.g.,

2009, 2010; Schwartz et al., 2011) have in several studies and across different samples repeatedly identified six clusters, four of which strongly resemble Marcia's original statuses.

Individuals with the Achievement status typically have high scores on both commitment dimensions (i.e., commitment making and identification with commitment), moderate to high scores on *exploration in breadth* and *depth*, and low scores on *ruminative exploration*. Likewise, individuals with the Foreclosure status score high on both commitment dimensions, but low on all exploration dimensions. Individuals within Moratorium, considered to represent a transitional "crisis" (Erikson, 1968), score on the contrary intermediate to low on both commitment dimensions but high on all exploration dimensions.

Perhaps the most interesting novel feature emerging from Luyckx's work is the new Carefree variant of diffusion. What separates Marcia's original Diffusion (now labeled Troubled Diffusion) from the Carefree type is the degree of exploration and general well-being. Whereas both score low on commitment, Carefree diffused individuals do not seem to be that bothered by their current state. They score much lower on exploration, especially the ruminative type, and show higher well-being than their Troubled counterparts (Luyckx, Schwartz, et al., 2008). They seem to represent the highly flexible late-modern individual – only speculated of in earlier theory – who wants to keep all options constantly open and who might even feel troubled by firm commitments (Gergen, 1991; Marcia, 1989). However, Schwartz et al. (2011) found the Carefree diffused individuals to comprise a risk group in regard to health risk behaviors (aggression, unsafe sex, risky driving, illicit drug use, etc.). Moreover, although Carefree subjects ruminate less over their future plans than Troubled individuals, they have not consistently been better off in terms of psychological well-being (Crocetti et al., 2011; Schwartz et al., 2011). Finally, the sixth cluster found with

the DIDS has been characterized by intermediate scores on all dimensions and have been labeled Undifferentiated.

To date the DIDS has produced consistent results in studies, for instance, among Belgian-Dutch, German, Turkish, Filipino, American, Swiss, and French adolescents (Luyckx, Schwartz, et al., 2008; Luyckx, Soenens, et al., 2008; Luyckx et al., 2010, 2014; Morsunbul & Cok, 2014; Pesigan, Luyckx, & Alampay, 2014; Schwartz et al., 2011; Zimmerman et al., 2013). The identity dimensions have shown diverse and unique associations with different psychosocial correlates such as work engagement, burnout, and perfectionism (Luyckx, Soenens, et al., 2008, 2010). In line with theory (Grotevant, 1987), a core finding has been that *identification with commitment* predicts psychological functioning far better than *commitment making* (Luyckx et al., 2006). This indicates that a commitment contributes to a clear sense of identity not until it is firmly identified with and integrated into one's self. Also, whereas *exploration in breadth* and *depth*, representing the adaptive side of exploration, have been unrelated to adjustment, higher *ruminative exploration* has consistently entailed weaker commitments as well as lower well-being (Luyckx, Schwartz, et al., 2008; Luyckx, Soenens, et al., 2008).

Although the status structure has been virtually identical across nations and cultures, some differences in the nature of the identity processes and the distribution of the statuses have indeed been documented. First, in their large sample of nearly 10 000 respondents in the USA, Schwartz et al. (2011) did not find the classical moratorium cluster. Instead, they found a cluster that was characterized by relatively high scores on both commitment dimensions. Schwartz et al. (2011) concluded that this cluster resembled more "Searching moratorium" described by Meeus et al. (2010) and Crocetti, Rubini, Luyckx, and Meeus (2008), which is characterized by high exploration of new alternatives while still maintaining prior commitments. Second, Crocetti et al. (2011) noticed that Italian young

adults within the Achieved status displayed relatively high *ruminative exploration*. Crocetti et al. (2011) linked this outcome to cultural factors, mainly the current uncertainty on the Italian labor market. Third, the results of Zimmerman et al. (2013) indicated that French young adults experienced identity exploration as less carefree than their Swiss colleagues. Mirroring Crocetti et al. (2011) the outcome was attributed to cultural factors, namely compared to France, Switzerland has more tolerant university contexts as well as more open societal context for exploration and one of the best job market prospects in Europe (youth unemployment rate 5.9% among those aged 15–24, compared to 25.7% in France). Hence, the rate of unemployment of young people coupled with the entailing cultural climate and social support seems to play a part in how identity is played out.

Finally, recently both Zimmerman et al. (2013) and Skhirtladze et al. (2016) found that the original five-dimensional model could not be confirmed as such in French-speaking and Georgian samples, respectively. The results indicated that the *exploration in depth*-dimension was internally inconsistent and had to be subdivided in two different types. One part was consistent with Luyckx, Schwartz and colleagues (2008) proposition, that is, exploration in depth strengthens current commitments. Skhirtladze et al. (2016) labeled this *reflective exploration in depth*. The other part, in contrast, corresponded with Grotevant's (1987) proposition of exploration leading to reconsideration and questioning of existing commitments. Zimmerman et al. (2013) termed this, in turn, *reconsideration of commitment*. Zimmerman et al. (2013) called for further attention to the divided nature of exploration in depth.

The current study

In his psychosocial writings, Erikson (1968) stressed that identity formation is always a function of its cultural niche. This means that socioeconomic factors specific to a social group and time period influence identity formation, for example by promoting or

cestraining it (see also Yoder, 2000). As most Western countries today share the same late modern environment of hectic and uncertain job markets requiring endless flexibility, some writers argue that perpetual exploration becomes more or less forced (Cote & Levine, 2002; Gergen, 1991). The term prolongation of youth refers to the fact that identity choices are not settled anymore in late adolescence as during Erikson's era, but are instead open-ended, fluid, or at least postponed until the late twenties or early thirties (Arnett, 2000; Cote, 2006). This means, for example, that a greater number of youth enter post-secondary studies or the job market without a clear decision on direction, leading them to swap educations or workplaces several times. Some authors have viewed this prolonged identity "crisis" as mainly positive, giving youth more time to work through different options before settling for one (Arnett, 2000). Others, on the other hand, have suggested that perpetual self-realization only impairs decision-making and leads to anxious rumination (Cote & Levine, 2002). Indeed, recent studies by Crocetti et al. (2011) and Zimmerman et al. (2013) suggest that future-related uncertainty goes hand in hand with rumination, weakens commitments and thereby psychological well-being.

Provided that Finland shares the same societal context as its western neighbours, especially the current economic crisis, one would expect a similar development to take place in Finland. We believe, however, that Finland differs from its central-European as well as American and Asian counterparts in certain respects. For example, although Finland ranks even worse in youth unemployment (27.7% among those aged 15–24 in March 2015; Statistics Finland) than France (25.5%), there are several factors that might profoundly moderate the impact of uncertainty and thereby identity-related stress. For instance, Finland has a welfare state model that relies on high social expenditures. In addition, along with other Nordic countries, Finland is considered more efficient and equal than central European welfare models (Sapir, 2005). At the same time Finland ranks globally as number one in

education (OECD, 2015). Income equality and high education level combined with strong social security might contribute to lower worry and higher confidence in future success than elsewhere. In other words, this unique context might allow Finns to pursue more open-ended and flexible identities for longer periods of time more safely than elsewhere. A particularly interesting question is, how do Finnish young adults cope in this situation compared to, for example, their Italian and French colleagues? Is diffusion increasingly widespread among young adults who should, according to classical identity theory, already have decided on their life? And if so, is it experienced with anxiety, indifference or even joy? Reflecting on the results of a longitudinal study in Germany, Kraus (2007) maintains that joyful diffusion exists but only as far as sufficient social and economic resources are available. Understanding identity development in the current climate is of tremendous importance from the perspective of public health and economics: Indecision and poor well-being may lead to marginalization and prolonged education.

Identity research within the Eriksonian-Marcian tradition has been rare in Finland. Only recently, parallel to our study, Marttinen, Dietrich, and Salmela-Aro (2016) translated and tested DIDS in a Finnish community sample. However, a short (11 item) version of the DIDS they developed for their study yielded results which, especially in terms of identity statuses, departed significantly from previous studies (e.g., Luyckx, Schwartz et al., 2008). The purpose of our study was therefore to assess and validate Luyckx's original five-dimensional model of identity formation for the first time among Finnish young adults and examine their identity formation from a societal and cross-cultural perspective.

More specifically, our objectives were threefold: First, to translate and assess reliability as well as factorial validity of the Finnish version of the DIDS. We expected the five dimensions as well as their interrelations with variables of psychological well-being to converge with previous findings (e.g., Luyckx, Schwartz, et al., 2008). In general, this meant

that *identification with commitment* would predict higher well-being whereas *ruminative exploration* would have the opposite effect. However, of particular interest was also the role of *exploration in depth* – would it be supporting or weakening current commitments or would it, as recently found, consist of two different aspects?

Our second objective was to check whether we could derive identity statuses through cluster analysis in our Finnish sample. Overall, we expected a similar pattern to emerge as previously observed in Belgian-Dutch, American, and Italian samples. However, given that identity formation is dependent on its societal context, we also expected some deviation from previous results.

Further, as part of the validation process we examined differences between the identity clusters regarding psychological adjustment. We expected the high commitment statuses (i.e., Achievement and Foreclosure) to score the highest and Troubled Diffusion the lowest on well-being. In light of current uncertain employment and future prospects as well as mixed findings regarding psychological well-being across the statuses, a special focus was on Carefree and Troubled individuals in particular. Due to the same reason, we also investigated how the identity statuses differed in terms of economic status. Based on previous theory and research we expected Achievement and Foreclosure to score highest, accompanied by Carefree Diffusion. Our final objective was to examine and discuss the results from a societal and cross-cultural perspective.

Method

Participants

The sample consisted of 751 (60.3% women) individuals who participated in an online survey that was conducted by the commercial survey company Norstat. The mean age was 24.6 (SD = 3.2, range 18–29 years). Regarding life context, 40% of the respondents were students, 39% were employed, 10% unemployed, and 1% private entrepreneurs. Half

(50%) reported being married or living together with a partner and 13% had children. A total of 36% had some post-secondary education. Reported total household net incomes were below 3617 euros (approximately \$3,821) per month for 80% of the sample. Finally, 91% were living in cities or close to big cities.

Measures

Identity formation and evaluation. The Dimensions of Identity Development Scale (DIDS; Luyckx, Schwartz, et al., 2008) comprises 25 items responded to on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). With five items per each of the five identity dimensions, the scale measures *commitment making* ($M = 3.50$, $SD = .92$), *exploration in breadth* ($M = 3.55$, $SD = .72$), *ruminative exploration* ($M = 3.00$, $SD = .90$), *exploration in depth* ($M = 3.24$, $SD = .63$), and *identification with commitment* ($M = 3.42$, $SD = .80$) in the domain of general future plans. Sample items are: “I have decided on the direction I am going to follow in my life” (*commitment making*), “My plans for the future match with my true interests and values” (*identification with commitment*), “I think actively about different directions I might take in my life” (*exploration in breadth*), “I think about the future plans I already made” (*exploration in depth*), and “I keep wondering which direction my life has to take” (*ruminative exploration*). The DIDS was translated into Finnish by the authors and then independently back-translated by an expert blind to the original version. There were only minor differences and consensus was reached by discussion. Alpha coefficients were .92, .88, .79, .58, and .83, respectively.

Adjustment and well-being. Well-being comprises both an emotional aspect of affect balance – referring to the level of positive and negative emotions – and a cognitive aspect of satisfaction with life, conceptualized as a sense of satisfaction with one’s life (Diener, 1984). The more cognitive aspect of well-being was measured with the ten-point Life Satisfaction scale from the European Social Survey: “All things considered, how

satisfied are you with your life as a whole these days?" The item was scored on a ten-point scale ranging from 0 (not at all satisfied) to 10 (completely satisfied). The mean score on the Life Satisfaction scale was 6.54 (SD = 2.18).

The more emotional aspect of well-being was measured using a measure adapted from the Happiness scale used in the World Values Survey: "Taking all things together, how happy are you?" The item was scored on a ten-point scale (the original scale uses a four-point scale), ranging from 0 (*not at all happy*) to 10 (*completely happy*). The mean score on the Happiness scale was 6.86 (SD = 2.14).

In order to also assess both more short-term and more negative aspects of well-being (for the independence of positive and negative aspects of well-being, see Huppert & Whittington, 2003) we administered the Finnish translation (Juntunen et al., 2015) of the 5-item Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM; Evans et al., 2002). The scale, responses to which are based on the previous week, covers experienced subjective well-being, life functioning, and problems/symptoms. Items were scored on a five-point scale, ranging from 1 (*not at all*) to 5 (*most or all the time*). A sample is "I have felt despairing or hopeless". The measure is problem scored (i.e., higher scores indicate more symptoms). The mean score on the CORE-OM scale was 2.25 (SD = .78). Alpha reliability was .82.

Chamberlain (1988) suggested a distinction between inner- vs. outer-focused evaluations of subjective well-being. The above presented measures reflect both inner- and outer-focused evaluation (e.g., life satisfaction or happiness judgments reflect not only evaluations of the self, but also of one's life more generally; that is, how satisfied or happy one is with one's work, family, or living environment). By contrast, self-esteem, referring to a stable sense of personal worth or worthiness (Rosenberg, 1965), is primarily inner-focused. Although self-esteem is positively associated with both affective (e.g., happiness) and

cognitive measures (e.g., life satisfaction) of well-being (e.g., Brown & Marshall, 2001; Diener & Diener, 1995), its dependence on judgments of personal competence and achievements has been argued to distinguish it from them (Lönqvist et al., in press). We measured self-esteem with the Single-Item Self-Esteem Scale (SISE) developed and thoroughly validated by Robin, Hendin, and Trzesniewski (2001). Respondents were asked to rate the statement “I have high self-esteem” on a ten-point scale, ranging from 0 (*not very true of me*) to 10 (*very true of me*). The mean score on the SISE was 6.36 (SD = 2.48).

Economic status. *Objective income* (total household net income per month) was measured with a single-item, tenpoint scale ranging from 0 (*under 1000 euros*) to 10 (*over 5361 euros*). *Subjective income*, that is, how well the respondent perceives he or she gets by financially, was in turn assessed with a single-item, four-point scale ranging from 0 (*Very hard to get by on current incomes*) to 3 (*I live comfortably on current incomes*). *Childhood family income*, as in the perceived financial status of one’s childhood family, was measured with a single-item, ten-point scale ranging from 0 (*poor*) to 10 (*rich*). Lastly, expected or *estimated worth of inheritance* was assessed with a single-item, ten-point scale ranging from 0 (*nothing*) to 10 (*considerable inheritance*).

Results

Factorial validity and reliability of the DIDS Confirmatory Factor analyses (CFA) performed using AMOS 22.0 rejected the hypothesized five-factor model ($df = 265$, $\chi^2 = 1951.40$, $p < .001$). An inspection of additional fit indices supported this conclusion. The Comparative Fit Index (CFI) value was .85 and the Root Mean Square Error of approximation (RMSEA) was .09; for acceptable model fit, these indices should be above .90 and below .08, respectively (Hu & Bentler, 1999). The modification indices (MI) were thus used to examine how to improve model fit. Three pairs of items revealed especially high MIs: (a) ruminative exploration items 14 and 15 (“I keep wondering which direction my life has to

take” and “It is hard for me to stop thinking about the direction I want to follow in my life”), (b) identification with commitment items 17 and 18 (“My future plans give me self-confidence” and “Because of my future plans, I feel certain about myself”), and (c) exploration in depth items 21 and 22 (“I think about the future plans I already made” and “I talk with other people about my plans for the future”). Within the first two pairs of items, overlap in item content was assumed to cause the high MIs and the error terms were thus allowed to correlate (Byrne, 2010). However, items 21 and 22 did not resemble each other and allowing the error terms to correlate did not sufficiently improve model fit.

The alpha coefficients were similar to those reported in most previous studies (Luyckx, Schwartz, et al., 2008; Schwartz et al., 2011) on all but one dimension. *Exploration in depth* only reached a score of .58 with item-total correlations of .22–.46. However, our results mirrored those of Skhirtladze et al. (2016) as well as Zimmerman and colleagues (2013) in the sense that items 21 and 22 correlated strongly with each other (inter-item correlation .30), but only weakly with items 23–25 (inter-item correlations .28–.54). These two sets of items thus seemed to reflect two different aspects of *exploration in depth*. Following Skhirtladze et al. (2016) and Zimmerman et al. (2013) we named these two dimensions *reflective exploration in depth* (items 21–22) and *reconsideration of commitment* (items 23–25). The former refers to reflecting on already established commitments, the latter to doubts about these commitments.

Table 1
Indices for the Six- and Five-Factor models, as well as the divergent four factor models in which a pair of dimensions was collapsed into a single one ($N = 751$)

Model	df	χ^2	RMSEA	CFI
Six-Factor model	258	1348.02	.08	.90
Five-Factor model	265	1951.40	.09	.85
Four-Factor model: CM and IC	269	2046.09	.09	.84
Four-Factor model: ED and EB	269	2082.82	.10	.84
Four-Factor model: EB and RE	269	2777.89	.11	.77
Four-Factor model: ED and RE	269	2156.83	.10	.83

Note. CM = Commitment making, IC = Identification with commitment, EB = Exploration in breadth, ED = Exploration in depth, RE = Ruminative exploration; df = degrees of freedom, χ^2 = chi square, RMSEA = root mean square error of approximation, CFI = comparative fit index

In conclusion, after allowing two pairs of items to covary and splitting *exploration in depth* into two variants, our analysis revealed a six-factor model that provided a statistically significantly better fit than the hypothesized five-factor model ($\Delta\chi^2 = 603.38$, $p < .000$, $\Delta\text{RMSEA} = -.01$, $\Delta\text{CFI} = +.05$) or any alternative four-factor model. Table 1 gives an overview of the fit indices of all the models that were tested. In all subsequent analyses we used six dimensions.

Internal and external construct validity

First, internal construct validity was assessed by examining the zero-order correlations between the six identity dimensions and comparing them with previous results (e.g., Luyckx, Schwartz, et al., 2008; Skhirtladze et al., 2016). Table 2 shows the correlation coefficients, including the variable age. The results were mostly in line with expectations and previous results. The two commitment dimensions were positively interrelated as were all the exploration dimensions, with the exception of *ruminative exploration* and *reflective exploration in depth* being unrelated. Furthermore, whereas *reflective exploration in depth* was positively associated with both commitment dimensions, these associations were the opposite for *reconsideration of commitment*. Lastly, only *exploration in breadth*, *ruminative exploration* and *reconsideration of commitment* were significantly interrelated with age, decreasing with higher age.

Next, we assessed external validity by assigning the six identity dimensions the role of predictor variables and inserting them in multiple regression analyses as one block. Table 3 presents the regression coefficients, their Pearson counterparts as well as the proportion of explained variance in the different adjustment variables. Although many significant and strong zero-order correlations disappeared when controlling for the other dimensions, the results were mostly expected. *Identification with commitment* and *ruminative*

exploration were strong predictors of all adjustment variables. In contrast, whereas *exploration in breadth* and *reflective exploration in depth* predicted two of the variables, *commitment making* and *reconsideration of commitment* had no predictive power of adjustment.

Table 2

Zero-order correlations between the six identity dimensions including age ($N = 744$)

Dimensions	1	2	3	4	5	6
1. Commitment making	—					
2. Identification with commitment	.85**	—				
3. Exploration in breadth	.08*	.14**	—			
4. Ruminative exploration	-.56**	-.49**	.45**	—		
5 Reflective exploration in depth	.49**	.53**	.40**	-.06	—	
6. Reconsideration of commitment	-.25**	-.20**	.53**	.67**	.18**	—
7. Age	.07	.04	-.10*	-.15**	-.04	-.23**

* = $p < .05$; ** = $p < .01$

Table 3

Standardized betas and proportion explained variance for the regression analyses of adjustment ($N = 744$)

Variable	CORE-OM symptoms	Self-esteem	Happiness	Life-satisfaction
CM	-.06 (.46**)	.05 (.47**)	.06 (.43**)	.04 (.40**)
IC	-.19** (.46**)	.31** (.50**)	.24** (.44**)	.20** (.41**)
EB	-.12** (.02)	.15** (.10**)	-.01 (.00)	.00 (.00)
RE	.35** (.46**)	-.19** (.34**)	-.20** (.32**)	-.22** (.31**)
ED _a	-.03 (.21**)	.02 (.27**)	.10* (.27**)	.14** (.28**)
ED _b	.08 (.28**)	-.08 (.18**)	.02 (.14**)	.03 (.12**)
Total R^2	.30**	.28**	.22**	.21**

Note. Pearson correlations in parentheses.

* = $p < .05$; ** = $p < .01$

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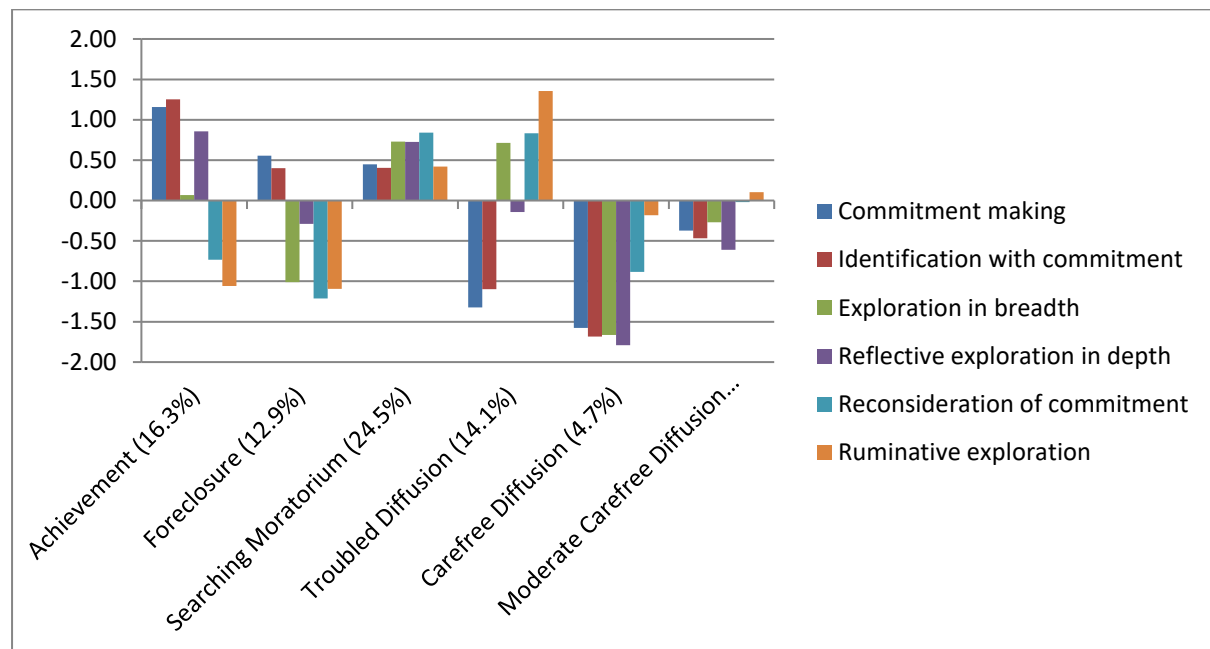
Since cluster analysis is sensitive to outliers (Norušis, 2009), we first removed 10 univariate (i.e., values of 3 *SDs* above or below the mean) and 7 multivariate outliers (i.e., individuals with high Mahalanobis distances). The status clusters were created through a two-step process similar to the one used in previous studies (e.g., Luyckx, Schwartz, et al., 2008; Zimmerman et al., 2013). First a hierarchical cluster analysis was conducted on the six identity dimensions using Ward's method with squared Euclidean distances. Three cluster solutions with either four, five or six clusters were evaluated and based on theoretical meaningfulness, parsimony, explanatory power, and resemblance with previous results, a total of 6 clusters were retained. In the second step, the initial cluster centers were used as nonrandom starting points in an iterative *k*-means cluster analysis. Figure 1 shows the final 6-cluster solution which explained between 49% and 72% of the variance in the identity dimensions. The y-axis represents *z* scores (i.e., standard deviations) which were interpreted as effect sizes. Similar to Cohen's *d* (1988), a *SD* of 0.2 is perceived as a small effect, a *SD* of .5 as a moderate effect, and a *SD* of 0.8 as a large effect.

Participants in the Achievement cluster ($N = 121$; 16.3%; 68.6% women) scored high to very high on both commitment dimensions and *reflective exploration in depth*, intermediate on *exploration in breadth*, and low to very low on *reconsideration of commitment* and *ruminative exploration*. Individuals within Foreclosure ($N = 96$; 12.9%; 65.6% women) were in turn characterized by only moderate high scores on both commitment dimensions and moderately low to very low scores on all explorations dimensions. Participants in the Moratorium cluster ($N = 182$; 24.5%; 60.4% women), on the other hand, had moderately high to high scores on all dimensions. In light of previous theory and results we labeled the cluster Searching Moratorium. In contrast, whereas individuals within Troubled Diffusion ($N = 105$; 14.1%; 65.7% women) scored very low on commitment and

intermediate to very high on exploration, Carefree diffused participants ($N = 35$; 4.7%; 51.4% women) scored intermediate to very low on all dimensions. Finally, the largest cluster to emerge in our study was a Moderate Carefree Diffusion cluster characterized by intermediate to low scores on all dimensions ($N = 205$; 27.5%; 51.2% women).

Figure 1

Z scores for the final cluster solution ($N = 744$)



The distinction between *reflective exploration in depth* and *reconsideration of commitment* did not alter the general structure of the clusters but instead it added to their meaning and interpretation (see discussion). In general, *reflective exploration in depth* tended to follow the direction of both commitment dimensions whereas *reconsideration of commitment* mirrored *ruminative exploration*.

Our last step in the validation of the 6-cluster solution was to examine mean scores on the adjustment variables. We conducted a two-way MANCOVA where we checked for possible interaction effects between cluster membership and gender while controlling for age. Cluster membership and gender were treated as independent variables and the

adjustment variables as dependent variables. Table 4 shows follow-up multivariate analyses and *post hoc* cluster comparisons, whereas Figure 2 shows the results as *z* scores.

The six clusters differed statistically significantly from each another on all adjustment variables ($F(20, 1340.87) = 7.21, p < .00$; Wilks' $\Lambda = .71$; partial eta squared = .08). The results were consistent with previous research (e.g., Luyckx, Schwartz, et al., 2008). Whereas Achievement and Foreclosure scored lowest on CORE-OM symptoms and highest on self-esteem, life satisfaction and happiness, the results for the other clusters were more or less the opposite. Although gender showed a main effect on adjustment ($F(4, 404) = 5.07, p < .00$; Wilks' $\Lambda = .95$; partial eta squared = .05), no statistically significant interaction effect was found ($F(20, 1340.87) = 1.03, p = .42$; Wilk's $\Lambda = .95$; partial eta squared = .01).

As a last and additional move we compared the identity clusters in relation to economic status. A similar two-way MANCOVA as described above showed that the six clusters differed significantly from each other on all variables except *childhood family income* ($F(20, 1340.87) = 2.78, p < .00$; Wilks' $\Lambda = .87$; partial eta squared = .03). No interaction effect occurred ($F(20, 2415.45) = 1.17, p = .27$; Wilks' $\Lambda = .97$; partial eta squared = .01). Follow-up multivariate analyses and *post hoc* cluster comparisons are shown in Table 4. In general, subjects with Achievement, Foreclosure and Searching Moratorium status were marked by higher economic status than subjects within the diffused statuses, especially Troubled and Carefree Diffusion.

Table 4 MANOVA's and post-hoc cluster comparisons based upon Tukey HSD tests for the six clusters ($N = 744$)

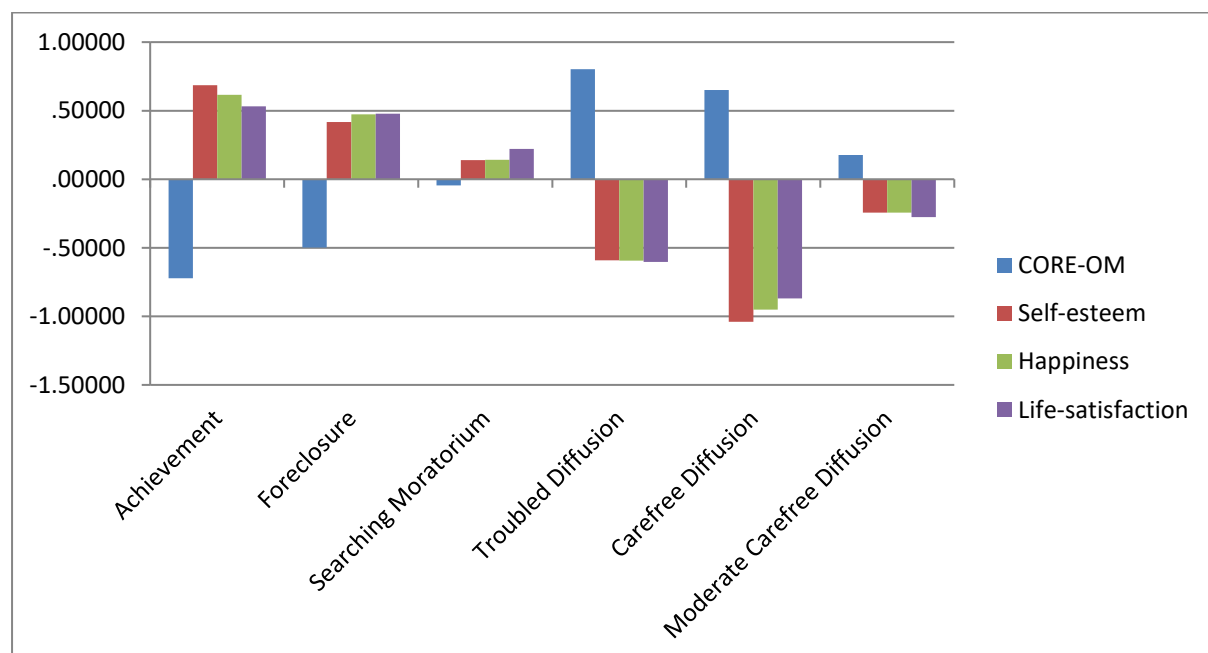
Variables	Clusters						F-value	η^2
	Achievement	Foreclosure	Searching Moratorium	Troubled Diffusion	Carefree Diffusion	Moderate Carefree Diffusion		
<i>Well-being:</i>								
CORE symptoms	1.69a (.48)	1.86a (.67)	2.21b (.66)	2.87c (.85)	2.75c (.66)	2.39b (.71)	45.76***	.24
Self-esteem	8.05d (1.72)	7.39cd (1.87)	6.70c (2.00)	4.89b (2.65)	3.77a (2.97)	5.75b (2.34)	41.72***	.22
Happiness	8.18d (1.22)	7.88cd (1.66)	7.16c (1.63)	5.59ab (2.34)	4.83a (2.21)	6.34b (2.26)	37.91***	.20
Life satisfaction	7.69c (1.35)	7.57c (1.76)	7.01c (1.74)	5.21ab (2.38)	4.63a (2.24)	5.93b (2.26)	35.85***	.20
<i>Economic status:</i>								
Objective income	4.91bc (2.84)	5.53c (2.81)	4.84abc (2.97)	3.67a (2.65)	3.91ab (2.86)	4.23ab (2.76)	6.02***	.04
Subjective income	2.93c (.76)	2.76abc (.69)	2.79bc (.71)	2.45a (.81)	2.51ab (.85)	2.64abc (.80)	5.72***	.04
Childhood family income	5.54b (2.26)	5.09ab (2.14)	5.27ab (2.11)	4.91ab (2.21)	4.43a (2.13)	5.07ab (2.28)	1.91	.01
Estimated worth of inheritance	4.09b (2.56)	3.45ab (2.10)	3.96b (2.39)	3.21ab (2.70)	2.77a (2.39)	3.33ab (2.24)	4.08**	.03

Note. A cluster mean is significantly different from another mean within the same row if they have different superscripts. A mean without a superscript is not significantly different from any other mean. Standard deviations are in parentheses.

** = $p < .01$, *** = $p < .001$

Figure 2

Psychological functioning by identity cluster



Discussion

Provided that societal structures guide identity formation, the focus of our study was to examine how Finnish young adult's identity formation is played out in comparison with other western and non-western young adults. Our primary concern was with whether a late modern society of increasing uncertainty and poor employment prospects diffuses young adults and prolongs their identity development and how the Finnish societal context may count for this development. More specifically, our first objective was to examine the psychometric properties and establish convergent validity of Luyckx's five-dimensional identity model (Luyckx, Schwartz, et al., 2008) among Finnish-speaking young adults. Our second objective was to derive identity statuses through cluster analysis and compare them with previous results. The last objective was to examine the results from a societal and cross-cultural perspective. The study yielded many expected and some unexpected results but also showed features unique to a Finnish context.

First, CFA indicated that the five-factor model did not have an acceptable fit and therefore the DIDS could not be validated as such in this Finnish sample. However, by modifying the factor structure according to modification and reliability indices, our data supported a six-factor model similar to the one found recently in French-speaking and Georgian samples (Skhirtladze et al., 2016; Zimmerman et al., 2013). The inter-item and item-total correlations as well as internal consistencies and correlations of the scales suggested that *exploration in depth* consisted of two different aspects of identity exploration. The first form – *reflective exploration in breadth* – correlated strongly and positively with both commitment dimensions and indicated thus a careful evaluation of current commitments, supporting and strengthening them. In contrast, the second form – *reconsideration of commitment* – correlated negatively with both commitment dimensions, indicating thus a critical questioning of commitments, weakening identification with them.

Further, in line with previous studies (Luyckx, Schwartz, et al., 2008; Zimmerman et al., 2013), *exploration in breadth* supported both forms of commitments while *ruminative exploration* did the opposite. All in all, even though the exact five-factor model was disconfirmed, our results were essentially in line with theory and previous studies (Luyckx, Schwartz, et al., 2008; Zimmerman et al., 2013) and fitted nicely a more recent, among French-speaking and Georgian young adults found six-factor model of the DIDS (Skhirtladze et al., 2016; Zimmerman et al., 2013).

Regarding age, *exploration in breadth*, *ruminative exploration*, and *reconsideration of commitment* decreased with higher age, as expected. However, a surprising result was that commitments and identification with them did not correlate with age. This runs against classical theory (Erikson, 1950, 1968) since commitments would be expected to increase and strengthen with higher age. That is, in the present study older participants had decreased their exploration of different alternatives but at the same time they were no more committed or certain about their future plans than their younger colleagues. This might be indicative of an adaptation to uncertain employment and future prospects in accordance with theories of late-modern societies (Cote & Levine, 2002; Gergen, 1991). Individuals capitulate in front of endless demands of change and give up on finding stable goals to commit to.

Finally, the relationships between the identity processes and adjustment variables provided further evidence for the convergent validity of the DIDS. Both commitment dimensions showed strong and significant positive zero-order correlations with all adjustment variables but only *identification with commitment* significantly predicted adjustment. This was expected, because commitments per se do not entail certainty – it seems to be only deeper identification with commitments that brings stronger well-being. Also as expected, *exploration in breadth* predicted negatively CORE-OM symptoms and positively

Self-esteem when controlling for the other dimensions. The results for *reflective exploration in depth* were similar, but this dimension predicted positively Happiness and Life satisfaction, and not CORE-OM symptoms or Self-esteem. Based on the present data it is not possible to say why these two exploration dimensions predicted different aspects of well-being; however, this may be an important topic for future identity research.

Further, *ruminative exploration* predicted positively CORE-OM symptoms and negatively the other variables. These results were expected, because *ruminative exploration* tends to be experienced as inefficient and endless; thus, it is not surprising that it is connected to heightened distress. *Reconsideration of commitment*, in turn, showed strong and significant negative zero-order correlations with well-being but failed to predict any of the adjustment variables when controlling for the other identity processes. Thus, when considered alone, *reconsideration of commitment* resembles *ruminative exploration* in that it goes hand in hand with weak commitments. Considered together with the other identity processes, however, it loses this link due to its collinearity with the other dimensions. This result is, nonetheless, in accordance with Luyckx, Schwartz, et al. (2008) study where a similar connection was observed between *exploration in depth* and well-being.

Overall, our results are in line with two recent studies by Skhirtladze et al. (2016) and Zimmerman et al. (2013) and show that there are several, both adaptive and maladaptive sides to identity exploration. Besides *exploration in breadth* being adaptive and *ruminative exploration* being maladaptive, *exploration in depth* emerged in our study as two different identity processes with different adjustment outcomes. Our regression results showed that an open and reflective evaluation of current commitments is truly possible and desirable in terms of well-being, as was originally theorized by Luyckx et al. (2006). But *exploration in depth* may mean doubtful reconsideration of commitments as well, accompanied by either higher or lower distress. The direction of this process and its felt

necessity probably determines how the process is experienced. This distinction may prove important, for instance, in counseling when determining the current identity situation of clients, whether and how they are exploring different options. The six-dimensional model, however, demands further attention and development in future research, especially when it comes to expanding on both aspects and scales of *exploration in depth*.

With respect to our second objective of the present study, based on cluster structure patterns, a total of six statuses were identified. All of them overlapped substantially with status clusters found in previous studies (e.g., Crocetti et al., 2008; Luyckx, Schwartz, et al., 2008; Schwartz et al., 2011) with some unique differences specific to our Finnish sample. Achievement was, as expected, the most committed cluster and individuals in this cluster had highest well-being. Foreclosure showed a similar pattern but participants in this cluster scored lower on both identity and well-being dimensions. In contrast to the results concerning participants in Achievement and Foreclosure clusters, Troubled and Carefree Diffusion participants were the least committed and displayed lowest psychological well-being. The major difference between these two clusters/statuses is that Troubled diffused individuals are anxiously exploring alternative future plans, while Carefree diffused individuals do not seem to care or ruminate over their current situation. The label *Carefree* may be somewhat misleading, however, because individuals with the Carefree status occasionally score equally low in well-being as individuals within the Troubled Diffusion status (e.g., Schwartz et al., 2011; Skhirtladze et al., 2016); this was also the case in the present study. In fact, in our study, individuals with Carefree Diffusion scored significantly lower on self-esteem than Troubled diffused individuals. Therefore, Carefree individuals may be unconcerned with planning for their future but they are definitely not carefree as in enjoying their circumstances.

The last cluster that emerged in our study was not the Undifferentiated cluster as in previous studies but instead a form of Moderate Carefree Diffusion. This cluster showed an equivalent but weaker profile than Carefree diffusion on all identity and well-being dimensions. Nonetheless, all diffused subjects seem to either lack knowledge and/or skills to find something more stable to commit to or they are simply unmotivated to do so.

The Moratorium cluster that emerged in our sample was more of the “Searching” type. In contrast to Ruminative Moratorium, Searching Moratorium is characterized by higher degrees of commitment and well-being and lower *ruminative exploration*. As discussed in previous studies (Crocetti et al., 2008), individuals within the Searching Moratorium have already made some commitments but they are still unsatisfied and therefore reconsidering them.

The emergence of six (as opposed to five) dimensions in the present study shed new light on the meaning and interpretation of exploration in relation to the identity statuses. For instance, the Searching Moratorium cluster scored higher on *reconsideration of commitment* than on other exploration dimensions, marking the independence of the process and its centrality to individuals doubtful of their existing commitments. This point to the in-between status of Searching Moratorium (Crocetti et al., 2008). It suggests that these individuals are not certain enough about their future plans to think positively of them or share them confidently with others. Instead they ponder, reconsider, and ask others for their opinion. Foreclosed subjects, in turn, showed much higher *reflective exploration in depth* than other forms of exploration. This indicates that they are relatively disinterested in exploring new possibilities or reconsidering their current commitments but show a slightly higher willingness to process their future plans positively and discuss them with others.

Finally, examining the differences in economic status across the identity clusters revealed, somewhat unexpectedly, that individuals within the Carefree Diffusion

cluster had equally low incomes as those within the Troubled Diffusion cluster. According to previous research (Kraus, 2007) a state of Carefree Diffusion should be possible merely for individuals who can socially and economically afford it. That is, only those young adults with a broad social network, secure incomes, financial help from their parents, or otherwise a secured future, have the opportunity to wander around without commitments and worry. By contrast, low income individuals with less security would be expected to be forced to explore future plans in order to change their situation and status, as in the case of Troubled Diffusion. However, the Carefree diffused individuals in our study, were worst off in terms of adjustment and income but they were still unconcerned with planning their future. From this perspective, apathetic “Carefree” diffused individuals are in fact less adaptive than Troubled diffused individuals and may therefore constitute a greater concern for future society.

Regarding our last objective, that is, viewing our results specifically from a societal and cross-cultural perspective, it is worthy of note that only one quarter of our participants (those with Achievement or Foreclosure status) seemed certain about their future plans and were doing well in terms of psychological adjustment. Skhirtladze et al. (2016) got in fact similar results among Georgian young adults but their sample consisted of younger participants. That is, our comparably old Finnish sample of young adults was mostly not committed yet but rather held a more open, exploring stance. The prevailing uncommitted state of this sample was reflected also in age differences – higher age entailed a decrease in exploration without an increase in commitments – as well as the fact that Moderate Carefree Diffusion was by far the largest group.

The finding according to which a very large proportion of Finnish young adults are not committed in terms of identity compared especially to Italian, American, and French-speaking young adults (Crocetti et al., 2011; Schwartz et al., 2011; Zimmerman et al., 2013) is quite a remarkable result. It corresponds with theories of late-modern, market-

driven, and highly individualistic societies, in which flexibility is preferred over stability (Gergen, 1991; Sennett, 1998). In other words, changes in the private (e.g., family relationships, gender) and public sphere (working life, communication) during the last decades have brought individualistic values of constant self-realization and transformation to the fore. Therefore, according to some accounts (Gergen, 1991; Giddens, 1991) the current climate is more suitable for individuals who openly and continuously explore different life options without ever really committing themselves. Nonetheless, to what degree this prolonged identity crisis is freely chosen and openly embraced is debatable. For instance, especially during the current European economic crisis uncertain employment prospects might force young adults to avoid commitments more than before, keeping them constantly ready to change direction. Identity development is therefore restrained more by structural necessities than own choices (Yoder, 2000). This is seen notably in the moderately low committed Moderate Carefree Diffusion status as well as in the Searching Moratorium type. Individuals with the Searching Moratorium status are, already somewhat firmly committed, but they still reconsider commitments with rumination. The present results showed that all individuals with Diffusion statuses, also those with the Carefree Diffusion status, had relatively poor psychological wellbeing. This shows that lacking stability and direction in life comes with a price. Hence, growing confusion among young adults may be a coping strategy in the current uncertain and constantly changing circumstances. However, this strategy does not appear to be chosen freely and happily. Based on our study it is, nonetheless, impossible to tell whether the broad and inclusive Finnish social security system actually amplifies and prolongs diffusion among young adults or protects them from even worse consequences of poor future prospects.

Lastly, at the other end of the spectrum are the Achieved individuals, highly committed and thriving in terms of well-being. However, contrary to several previous

findings (Luyckx, Schwartz, et al., 2008; Schwartz et al., 2011; Zimmerman et al., 2013) but similar to Skhirtladze et al. (2016), the Achievement cluster showed only an intermediate degree of *exploration in breadth*. That is, highly committed Finnish young adults are not simultaneously able or willing to consider alternative options. This might in fact also be a defensive maneuver in the same uncertain context. Those who are committed and satisfied do not explore other options since it jeopardizes their highly appreciated accomplishment of being committed in a situation where the society itself appears to be in a perpetual change.

The present study had some limitations. First, the cross-sectional design used did not let us examine identity development as such, that is, how the identity processes evolve and change with time. Developmental processes can only be examined through longitudinal studies (Meeus, 2011). Second, our sample was not randomly chosen, but instead consisted of young adults registered to the web panel we used. However, our sample was fairly balanced in terms of gender, age, income, and life context. Finally, even though our results regarding the prevalence of uncommitted and diffused individuals may be explained with economic factors it is still unclear how exactly the Finnish welfare state moderates this connection. The inclusion of societal factors in the analysis of identity formation therefore most certainly needs more scrutiny.

Conclusion

In the present study the DIDS proved a useful instrument for the assessment of identity processes and their associated identity statuses in a Finnish-speaking context. Although the hypothesized five-dimensional model of the DIDS could not be fully confirmed our results were strongly in line with previous conclusions (Luyckx, Schwartz, et al., 2008; Schwartz et al., 2011) and in fact supported a more recent six-dimensional model proposed by Zimmerman et al. (2013) and Skhirtladze et al. (2016). By splitting *exploration in depth* in two dimensions – *reflective exploration in depth* and *reconsideration of commitment* – the

DIDS showed appropriate internal consistency as well as factorial, internal, and external validity.

Overall, Finnish young adults were fairly uncommitted and uncertain about their future plans in our study. Identity exploration decreased with higher age but no increase in commitments was detected. In addition, the distribution of identity statuses showed that identity diffusion was unexpectedly prevalent among our subjects. How this affects commitments and well-being in the long run demands further attention because large-scale identity diffusion, indecision, and poor well-being among young adults might demand closer attention in terms of better intervention resources and methods.

Finally, due to the broad background of our subjects in terms of education, income, and life context, it is likely that the results are generalizable to Finnish young adults aged 18–29. Hence, we call for replications of these results in the future; especially the six-factor structure observed here needs further attention. In addition, in order to capture the interaction of identity processes and socioeconomic factors, longitudinal studies of identity status development in different contexts are crucial.

Disclosure statement

No potential conflict of interest was reported by the authors.

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